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IS 13718-3 (2002): Horology - Watch Straps, Part 3: Solid Link Straps [PGD 23: Horology]

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घड़ीसाजी – हाथ घड़ियों के पट्टे

भाग 3 ठोस कड़ी के पट्टे — विशिष्टि

Indian Standard

HOROLOGY — WATCH STRAPS

PART 3 SOLID LINK STRAPS — SPECIFICATION

ICS 39.040.10

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

June 2002

Price Group 3

Horology Sectional Committee, BP 23

FOREWORD

This Indian Standard (Part 3) was adopted by the Bureau of Indian Standards, after the draft finalized by the Horology Sectional Committee had been approved by the Basic and Production Engineering Division Council.

This standard covers the dimensions, material, general requirements and tests of solid link straps. The other two parts of the standard are:

Part 1 Leather straps — Specification
Part 2 Stainless steel — Specification

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

HOROLOGY — WATCH STRAPS

PART 3 SOLID LINK STRAPS — SPECIFICATION

1 SCOPE

This standard (Part 3) specifies the dimensions, material, general requirements and tests of solid link straps.

2 REFERENCE

The following standard contains provision which through reference in this text, constitutes provision of this standard. At the time of publication, the edition indicated was valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent edition of the standard indicated below:

IS No.	*Title*
10865 : 1998	Wrist watches — Spring bars for watch cases and straps — Specification

3 NOMENCLATURE

Shall be as given in Fig. 1.

4 MATERIAL

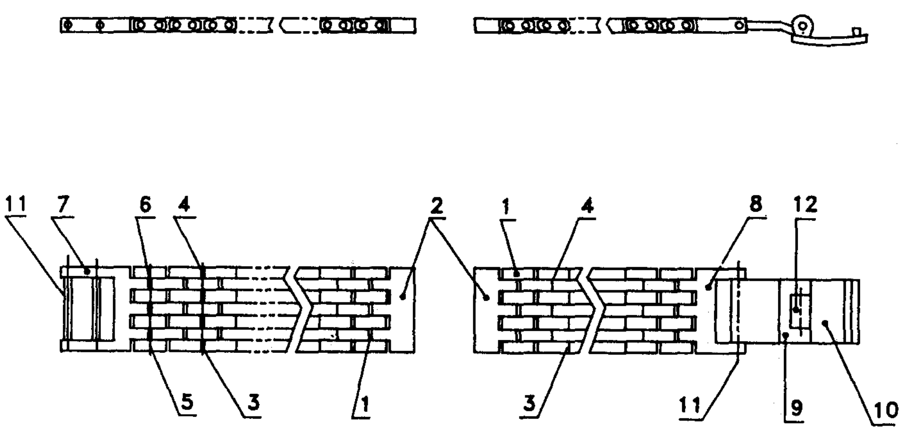
4.1 The recommended materials for the different elements of the solid link are given in Table 1.

Table 1 Recommended Material for Different Elements of Solid Link Straps

(*Clause* 4.1 *and* Fig. 1)

Item No.	Designation	Material
1	Link	Leaded brass, nickel silver, stainless steel
2	Catch	Leaded brass, nickel silver; stainless steel
3	Linking pin – Screw type	Stainless steel
4	Screw	Stainless steel
5	Linking pin – Snap type	Stainless steel
6	Snap pin	Stainless steel
7 & 8	Clasp connectors	Leaded brass, nickel silver, stainless steel
9 & 10	Clasp	Leaded brass, nickel silver, stainless steel
11	Pin	Stainless steel
12	Support pin	Stainless steel

4.2 The chemical composition of the materials to be used shall be as given in Table 2.



(*see* Table 1 for Items No. 1 to 12)

FIG. 1 SOLID LINK STRAP

Table 2 Chemical Composition of the Material Used in Solid Link Straps for Watch

(*Clause* 4.2)

Material	Elements (Percentage)							
	Ni	Cu	Mn	Mg	Si	Zn	Fe	Pb
Nickel silver	12.5 to 15.5	59 to 65	< 0.5	—	—	Balance	—	—
Aluminium	—	0.1	—	0.4 to 0.9	0.3 to 0.7	—	0.6	—
Leaded brass	—	57 to 61	—	—	—	Balance	—	1.7 to 2.2
Stainless steel	Grade 07 Cr 18 Ni 9 Hardness 350 $^{+30}_{0}$ HV							

5 CONSTRUCTION

5.1 The different elements of the solid link watch straps may be manufactured by press operations or by machining. The solid links are joined together by pins in predetermined pattern/design to achieve the final shape.

5.2 The clearance between link, linking pin/head of screw or snap pin to be minimum 50 micrometres. The maximum value shall depend upon design of bracelet.

5.3 The head of the linking pin/head of screw or snap pin shall not protrude from the side of the links.

5.4 There shall be provision for adjustability of the strap length.

Adjustability range:

1) For catch width ≥ 15 mm, 210 to 150 mm
2) For catch width < 15 mm, 180 to 140 mm (along with case)

6 DIMENSIONS

6.1 Solid Link and Clasp Connection

6.1.1 The strap width W_2 as shown in Fig. 2 and 3 shall preferably be 6, 8, 10, 12, 14, 16, 18 and 20 mm or may be different depending upon the construction/look of the strap.

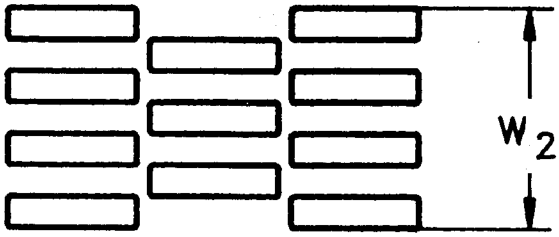
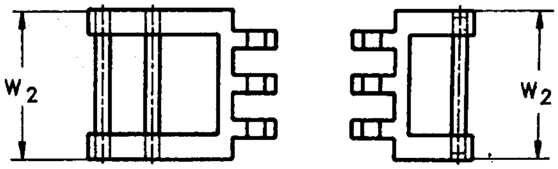


FIG. 2 SOLID LINK



NOTE — Clasp connectors are designed to connect clasp and to simulate the pattern of solid link

FIG. 3 CLASP CONNECTORS AND PIN

6.1.2 The linking pin can be any other type but shall satisfy the functional requirements (*see* Fig. 4).

7 GENERAL REQUIREMENTS

7.1 Strap Body

The joints shall be such that the intermediate gap between two links is just sufficient to have the required flexibility of strap. This working gap shall be uniform throughout the length of the strap. There shall be no abnormal play between links.

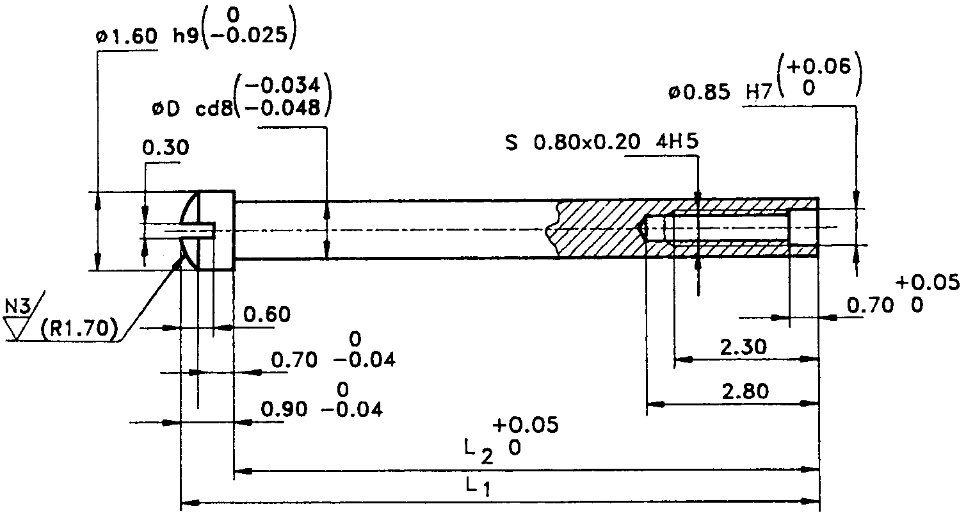
7.2 Watch Catch

There shall be no abnormal play or loose linkage between the watch catch and the main strap. There shall be a provision for removal of the spring bars or linking pins from the watch case.

7.3 Strap Clasp

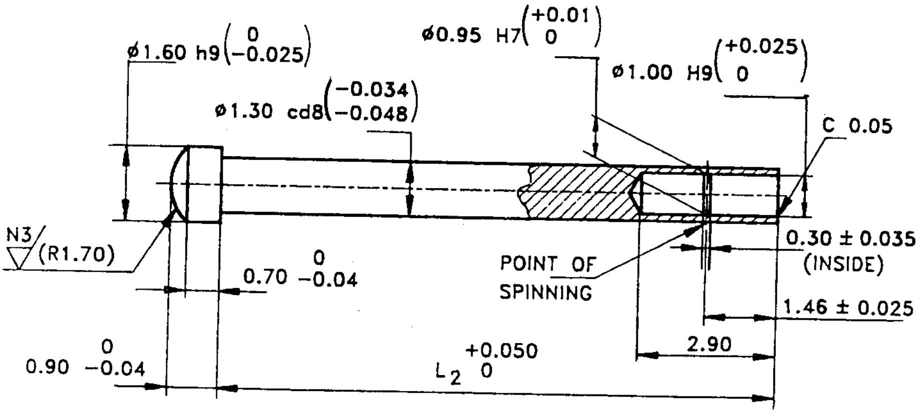
7.3.1 There shall be no abnormal play in the joints between the strap body and the clasp. The clasp and lock assembly shall be free from sharp edges and burrs.

7.3.2 Clasp assembly shall be marked legibly and indelibly with the source of manufacture or registered trade-mark.



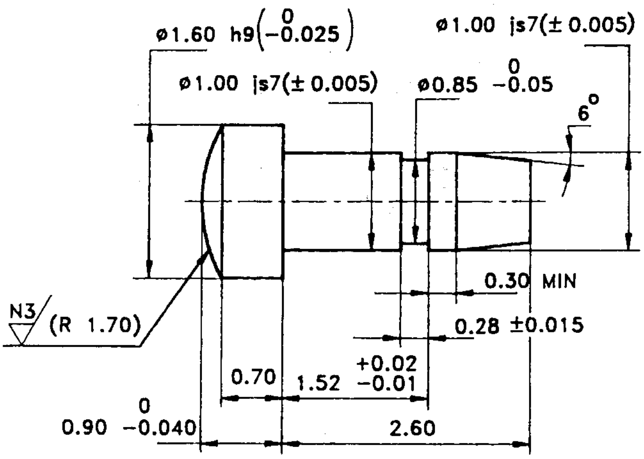
All dimensions in millimetres.

FIG. 4 LINKING PIN — SCREW TYPE



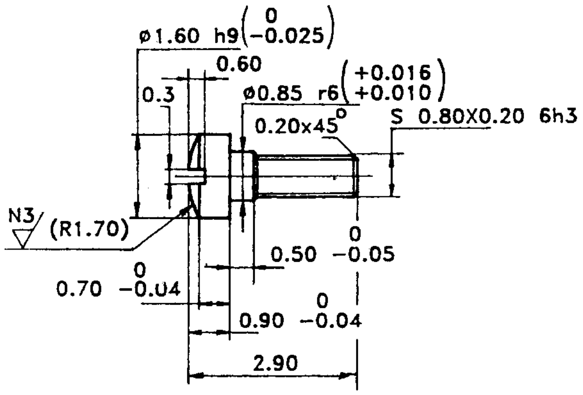
All dimensions in millimetres.

FIG. 5 LINKING PIN — SNAP TYPE



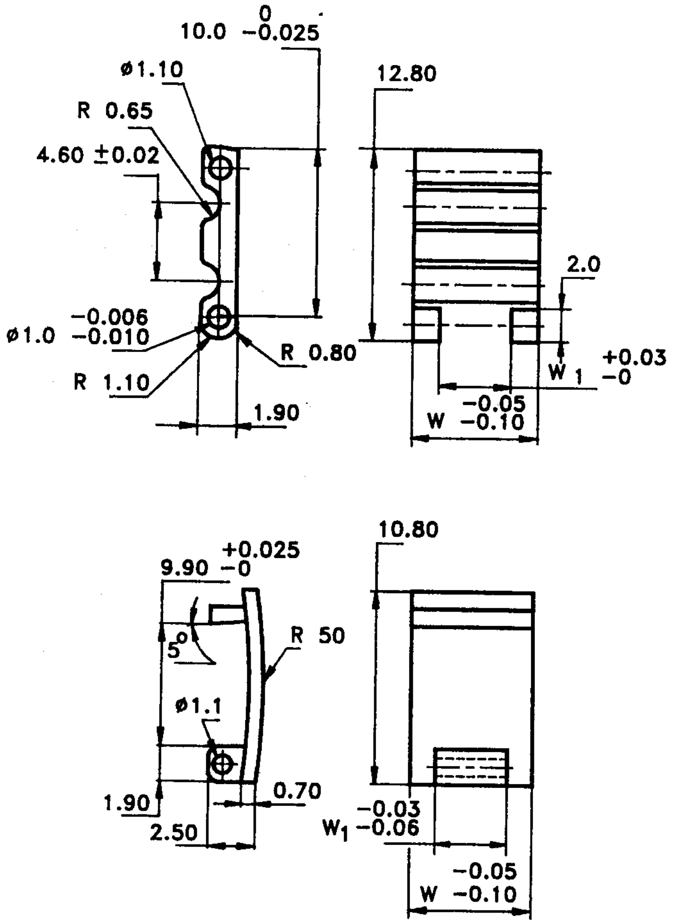
All dimensions in millimetres.

FIG. 6 SNAP PIN



All dimensions in millimetres.

FIG. 7 SCREW TYPE



NOTES

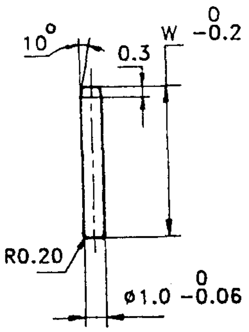
1 Dimensions *W* may be 13.90, 9.40, 5.90, 3.90 with respect to bracelet width.

2 Dimensions W_1 may be 7.00, 5.00, 3.00, 2.00 with respect to dimensions *W*.

3 The above two parts of the clasp are to be connected by the support pin.

All dimensions in millimetres.

FIG. 8 CLASP



All dimensions in millimetres.

FIG. 9 SUPPORT PIN

7.3.3 Clasping and de-clasping force shall be 1.5 to 2.5 kgf1) and 1.0 to 1.5 kgf, respectively, for straps with catch width equal to or greater than 15 mm and 1.0 to 2.0 kgf and 0.8 to 1.3 kgf, respectively, for straps with catch width less than 15 mm.

7.4 Spring Bars

The spring bars shall not project more than 0.2 mm outside the clasp. There shall be no abnormal play between the spring bar pin and the hole in the clasp. Other details of spring bars shall conform to IS 10865.

7.5 Linking Pins

All the linking pins used in clasp and strap body shall remain in position and shall not come out during normal usage.

8 WORKMANSHIP AND FINISH

8.1 All the sharp edges and corners shall be ground and polished to have a smooth finish. The finish of the strap shall be as agreed to between the manufacturer and the buyer.

8.2 All the straps shall be thoroughly and properly cleaned to ensure that these are totally free from buffing and polishing compounds.

9 TESTS

9.1 Pull-Off Force

9.1.1 The strap assembly apart from material, construction, dimensions, general requirements, workmanship and finish (*see* **4**, **5**, **6**, **7** and **8**) shall meet the following test requirements.

9.1.2 The complete strap assembly shall withstand an axial/suspended load of minimum 98.1 N (10 kgf) without any noticeable change in the original condition of strap assembly like opening of links and original length of strap, etc.

9.1.3 Loosening torque of the screw shall be greater than 0.015 N.m (150 g.cm) but less than 0.039 N.m (400 g.cm).

9.2 Torque and Twist

Connect one end of strap to the torque meter and apply a torque of 0.20 N.m (2 kgf.cm) by twisting the strap at the free end. The strap shall withstand the test without any deformation and loosening.

9.3 Flexibility

Each half of the strap shall at least form a semicircle when folded in the direction of normal usage of strap. The strap shall be uniformly flexible over its entire length and there shall not be any hugging at the catch or any part of the strap.

10 PACKING

Each strap shall be put in a polythene cover and such of those straps having the same catch width and same design shall be packed in a cardboard box in 100 numbers.

11 MARKING

11.1 Each cardboard box shall have marking for catch width, design and the quantity of straps.

11.2 BIS Certification Marking

The product may also be marked with the Standard Mark.

11.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the rules and regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

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This Indian Standard has been developed from Doc : No. BP 23 (0070)/LM 23 (0197).

Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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Printed at Prabhat Offset Press, New Delhi-2